TEACHING PLAN FOR B.A. Program (Major) SEMESTER- II

DSE COURSE: ECON024

(BASIC ECONOMETRICS)

TEACHER: Ms. GUNJAN KHANDELWAL

READINGS:

1. A.H. Studenmund, Using Econometrics: A Practical Guide,7th Edition , Pearson, 2017
2. D. N. Gujarati and D.C. Porter, Essentials of Econometrics, 4 th Edition, McGraw Hill International Edition, 2010.

UNIT	TOPIC	READINGS	NO. OF LECTURES
1. **Regression Models**	OLS estimators, hypothesis Testing using software and practical application; multiple Regression Model - estimation, Testing and practical application using software like GRETL/EViews/ R/Stata/EXCEL etc	**Studenmund:** Ch1, 2, 4, 5	**15 Hours**
2. **Qualitative variables and Estimation**	Application of qualitative variables, Nonlinear Models, Applications of dummy variables	**Studenmund:** Ch-7 (till 7.3) , **Gujarati & Porter:**- Ch-6 (till 6.5)	**15 Hours**
3. **Issues with Classical Assumptions**	Violation of normal distribution, Collinearity with independent variables, heteroscedasticity, autocorrelation, practical application	**Gujarati & Porter**:- Ch3 (Pg78-79) for Jarque Bera Test for Normality of residuals **Studenmund**: Chapter 8, 9 (pg 273-289, only Durbin-Watson test to be done),10 (pg 306- 321, only White's Test to be done)	**15 Hours**

ASSESSMENT:

1. **Internal Assessment (IA): 30 Marks – one class test, and other class test/assignment (12 marks each), and 6 marks for attendance.**
2. **Continuous Assessment (CA): 40 marks –As per the University Rules.**
3. **The end semester exam: 90 marks will comprise numerical and other related questions.**

TEACHING PLAN FOR B.A. (HONS) ECONOMICS SEMESTER- II

UGCF COURSE: ECON012

(INTRODUCTORY ECONOMETRICS)

READINGS:

1. **D. N. Gujarati and D.C.Porter, Essentials of Econometrics, 4th Edition, McGraw Hill International Edition, 2010.**
2. **Wooldridge, J. M. (2019). Introductory econometrics: A modern approach. 7th edition, Cengage learning**

UNIT	TOPIC	READINGS	NO. OF LECTURES
1. **Simple Linear Regression Model**	OLS method of Estimation and Properties of estimators, Measures of Fit, Testing of Hypotheses, Prediction, Introduction to econometric software and practical application using econometric software (GRETL/EViews/ R/Stata/EXCELetc.)	**Gujarati:** Ch 2, Ch 3 **Wooldridge**: Ch2: Example 2.1- Example 2.9 and 2.13.	**10 Hours**
2. **Multiple Linear Regression Model**	OLS method of estimation and Properties of OLS estimators, Testing of Hypotheses, Measures of fit, practical application using econometric software (GRETL/EViews/ R/Stata/EXCEL etc.)	**Gujarati:** Ch 4 **Wooldridge:** Ch 3: Examples 3.1, 3.3, 3.4,3.5 Ch 4: all Examples except 4.7, 4.8 and 4.10	**8 Hours**
3. **Functional Forms and Qualitative independent variables**	Nonlinear Models and Transformations of Variables, Dummy variables, practical application using econometric software (GRETL/EViews/ R/Stata/EXCEL etc.)	**Gujarati:** Ch 5, Ch 6 (excluding 6.7) **Wooldridge:** Ch 2: Example 2.10, 2.11, 2.12 Ch 6: Example 6.2, 6.3 Ch 7: Example 7.1 – Example 7.11	**9 Hours**
4. **Violations of Assumptions**	Consequences, Detection, and Remedies: Multicollinearity, Heteroscedasticity, Serial Correlation, practical application using econometric software	**Gujarati:** Ch 8, Ch 9 (Excluding Sec 9.5), Ch 10 (Excluding Sec 10.6, Appendix 10A)	**9 Hours**

		(GRETL/EViews/R/Stata/EXCEL etc.)	**Wooldridge**: Ch 8: All Examples except 8.3, 8.8, 8.9. Ch 12: All Examples except 12.1, 12.7, 12.8, 12.9.	
5.	**Specification Analysis**	Omission of a relevant variable; ϖ Inclusion of irrelevant variable; ϖ Tests of specification	**Gujarati:** Ch 7 **Wooldridge**: Ch 3: Example 3.6 Ch 9: Example 9.1, 9.2, 9.5, 9.6, 9.7	**9 hours**

Some Suggestive **Open-source Database for Practical:**
1. World Bank: https://data.worldbank.org/
2. International Monetary Fund Data: https://www.imf.org/en/Data
3. Reserve Bank of India database: https://dbie.rbi.org.in/#/dbie/home
4. Ministry of Statistics for Program Implementation: www.mospi.gov.in
5. Open Government Data Platform India: https://data.gov.in

Assessment:

1. **Internal Assessment (IA): 30 Marks – one class test, and other class test/assignment (12 marks each), and 6 marks for attendance.**
2. **Continuous Assessment (CA): 40 marks –10 marks for group project, a 20 marks end semester practical exam and a 10 marks viva voce as per the directives of University of Delhi.**
3. **The end semester exam: 90 marks will comprise numerical and other questions.**

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TEACHING PLAN FOR B.A. (HONS) ECONOMICS SEMESTER- II

UGCF COURSE: ECON006

(INTERMEDIATE STATISTICS)

CREDITS: 4

READINGS:

1. **Devore, J. (2012). Probability and Statistics for Engineers, 8th ed. Cengage Learning.**

UNIT	TOPIC	READINGS	NO. OF LECTURES
1. **Sampling distribution of a Statistic**	Concept of Statistic and parameter, Sampling distributions, Central Limit Theorem.	Devore: Ch 5.3, 5.4, 5.5	**12 Hours (Suggested weightage 20 Marks)**
2. **Estimation**	Estimator and methods of estimation, Point Estimation: method of moments and method of maximum likelihood; Interval Estimation, Properties of an estimator: Consistency, Unbiasedness, Efficiency and Sufficiency, confidence level and sample size, intervals based on Z-distribution, tdistribution and chi-squared distribution, F-distribution.	Devore: Ch 6, Ch 7, selected sections of Ch 9	**12 Hours** **(Suggested Weightage 30 Marks)**
3. **Inference**	Meaning of a statistical hypothesis, errors in hypothesis testing: Type 1 and Type 2 errors, power of a test.	Devore: Ch 8.1	**9 Hours (Suggested combined Weightage 40 Marks)**
4. **Hypothesis Testing**	Testing of a population Mean, proportions - small and large sample tests, P-value; Testing for variance; Testing	Devore: Ch 8.1, Section 11.4 is optional).	**12 Hours (Suggested combined Weightage 40 Marks)**

	hypothesis for two samples, testing for equality of means; testing for ratio of variances.		

Supplementary Reading:
1. Hogg, R., Tanis, E., Zimmerman, D. (2021) Probability and Statistical inference, 10th Edition, Pearson.
2. Larsen, R., Marx, M. (2011). An introduction to mathematical statistics and its applications. Prentice Hall.
3. Miller, I., Miller, M. (2017). J. Freund's Mathematical Statistics with Applications, 8th ed. Pearson.
4. Anderson, D. R, Sweeny, D. J, et. al (2019), Statistics for Business and Economics, 13th edition, Cengage Learning.
5. Jan Kmenta (1997), Elements of Econometrics, 2 nd ed. Macmillan publishing; New York and Collier Macmillan; London.

Assessment:

1. **Internal Assessment (IA): 30 Marks – two class tests (12 marks each), and 6 marks for attendance.**
2. **Continuous Assessment (CA): 40 marks –problem solving, interpretation of results pertaining to a data (35 marks) and 5 marks for attendance.**
3. **The end semester exam: 90 marks will comprise numerical and other questions.**

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